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David J. Joseph

September 30, 2003
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS

Ex parte Ludwig
Appeal No. _____

Serial No.: 09/410,916
Filed: October 1, 1999
Applicant: Jerome H. Ludwig
Title: STERILIZATION OF FIRE SPRINKLER SYSTEMS
Art Unit: 1744
Examiner: Monzer R. Chorbaji

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BRIEF ON APPEAL

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BRIEF ON APPEAL

REAL PARTY IN INTEREST

The subject application is owned by Pipe Sterilization, Ltd. of Scottsdale, Arizona.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board of Appeals' decision in the pending appeal.

STATUS OF CLAIMS

Claims 23-31 have been finally rejected under 35 U.S.C. §103.
Claims 23-31 appear under the Appendix of Claims.

STATUS OF AMENDMENTS

There are no outstanding amendments to the claims.

SUMMARY OF THE INVENTION

This invention is directed to a method for steam sterilizing a fire sprinkler system. The Board's attention is particularly drawn to page 20 wherein Fig. 3 is described as showing an installed section of a system for sterilizing a fire sprinkler system. Example 6 at page 31 is an operating example using a large section of a fire sprinkler system, similar to that shown in Fig. 3, having a 50-foot, 4-inch diameter header with 1 1/4 inch diameter tributary pipes **59** each having sprinkler heads **34** in the vertical position and one end of each tributary line **59** was isolated from the sprinkler system by opening the respective flanges and attaching a ball valve **70**. With reference to Fig. 3, the invention may be practiced as disclosed in Example 6 and with reference to main claim 23, by

**isolating a section 45 of a water distribution pipe in
a fire sprinkler system for the delivery of steam 10, wherein
said water distribution pipe includes a plurality of heat-
sensitive sprinkler heads 34 and contains water,**

**removing the water from said section of the system,
utilizing a temperature sensor 78 to detect the
temperature at a position in said section of the system,**

**inactivating the sprinkler heads 34 during the delivery
of the steam 10 by removing said sprinkler heads 34 and
replacing them with temporary fittings (76, 74),**

delivering said steam 10 into said section 45 for a

duration at a temperature and in an amount sufficient to kill microorganisms and sterilize the section 45, and returning said sterilized section 45 in the system to operation.

This invention provides a simple, low-cost and effective method for sterilizing fire sprinkler systems to prevent or inhibit microbiologically induced corrosion, pinhole leaks, the deterioration of the hydraulics, and overall performance degradation.

ISSUES

The issue presented for review is whether claims 23-31 are patentable under 35 U.S.C. §103(a) over U.S. Patent 6,076,536 to Ludwig et al. in view of U.S. Patent No. 5,512,249 to Singh.

GROUPING OF CLAIMS

For purposes of this appeal, all claims 23-31 will be considered to stand or fall together.

ARGUMENT

Background

The Examiner has rejected claims 23-31 over Appellant's earlier Ludwig et al. U.S. Patent No. 6,076,536 ('536) in view of Singh U.S. Patent No. 5,512,249 ('249) under 35 U.S.C. §103. It is Appellant's position that the rejection is replete with

assumptions, without factual basis and accordingly, must fail for the following reasons and in view of the cited authorities.

ASSUMPTION 1.

The Examiner assumes that Appellant's Ludwig '536 teaches "a plurality of heat-sensitive sprinkler heads" and "inactivating a sprinkler heads by first removing them", with reference to col. 5, lines 20-21. This is not correct with reference to Appellant's earlier Ludwig '536 patent where it is stated that "the sprinkler head is first removed and the system is connected to a manifold, etc." (Col. 5, lines 20-21). Therefore, Appellant's earlier Ludwig '536 does not disclose a fire sprinkler system containing a plurality of heat-sensitive sprinkler heads, nor does it teach inactivating them.

Rather, Ludwig '536 is a patent of the named Appellant herein. Appellant's '536 patent is directed to a chemical cleaning that cannot guarantee a sterilized pipe system. This patent is directed to chemically cleaning and passivating (not sterilizing) water pipe for a period of time and establishing a passivating surface. Biocides may also be employed in water systems after cleaning and passivating. However, passivation is not sterilization. Furthermore, the Examiner's reference to the use of a second sterilized gas at column 2, line 40, is in error. Accordingly, there is no suggestion in Ludwig '536, as has been acknowledged by the Examiner, for sterilizing a sprinkler system, let alone with steam upon the inactivation of sprinkler

heads and delivery of steam into isolated sections to kill microorganisms and returning sterilized sections of the system to operation.

ASSUMPTION 2.

The Examiner assumes that Appellant's earlier Ludwig '536 patent "involves removing some water" when in fact that patent is based upon adding an aqueous cleaning solution to the section to be cleaned (col. 3, lines 39-40).

ASSUMPTION 3.

The Examiner contends that "removing the sprinkler heads before or during the application of the sterilant is well within the scope of the artisan." However, Appellant's Ludwig '536 does not disclose heat-sensitive sprinkler heads and, obviously, the Examiner's assumption that in any event sprinkler heads may be removed before or during the application, indicates a lack of understanding of Appellant's method. Appellant is using steam which would affect the heat-sensitive sprinkler heads and render Appellant's method inoperative if, as the Examiner suggests, the sprinkler heads were present during the application of the steam.

ASSUMPTION 4.

The Examiner contends "when the sprinkler heads are removed, then it is an intrinsic step to cover such openings in order to clean the interior of the system." There is absolutely no support in Appellant's Ludwig '536 for this assumption.

Appellant's main claim 23 requires the inactivation of heat-sensitive sprinkler heads during the delivery of the steam by removing them and replacing them with temporary fittings.

ASSUMPTION 5.

The Examiner has concluded that Appellant's Ludwig '536 patent "teaches delivering of sterilant heated" to "10° celsius to 80° celsius" which "may intrinsically include steam." In contrast, Ludwig '536 teaches the use of an "aqueous cleaning solution" not a "sterilant" as the Examiner contends. Further, it is impossible to make steam at such temperatures.

ASSUMPTION 6.

The Examiner improperly seeks to combine Singh '249 as a reference in the art for sterilizing a fire sprinkler system, when, in fact, Singh makes no such disclosure or suggestion. Singh '249 employs steam to sterilize a transfer conduit, not a complex fire sprinkler system. While Singh does teach a temperature sensor/discharge valve at the end of the transfer line, it does not teach the use of temperature sensors to insure sterilization of his conduit, let alone a complex fire sprinkler system that is isolated according to Appellant's method with the inactivation of sprinkler heads, the use of temperature sensors in the isolated section, and sterilizing the section, followed by returning the section in the system to operation. In other words, Singh is totally deficient when reference is made to the claimed steps

of Appellant's main method 23 for thermally sterilizing a fire sprinkler system and all claims 24-31 which depend therefrom.

The MPEP, under Section 706.02(j) states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - 2143.03 for decisions pertinent to each of these criteria. (Emphasis added.)

The extent to which the Examiner has erred is illustrated with respect to claims 24-25, 26-28, 29, 30 and 31 where the Examiner continues to make assumptions with respect to Appellant's Ludwig '536 in the rejection of these claims. Appellant's Ludwig '536 patent does not teach the purging of sterilant with gas. It is not intrinsic for the Ludwig '536 method to use sterile gas or sterilized water. The Examiner assumes that the choice of the medium to maintain the treated section upon return to operation is within the scope of the artisan without any basis whatsoever. As stated above, Ludwig '536 does not teach removing heat sensitive sprinkler heads, replacing them with temporary fittings, sterilizing sprinkler heads, etc. In other words, the Examiner's rejection of subclaims 24-31 also has no factual support and is predicated upon assumptions.

The Examiner's final rejection makes reference to the Supreme Court of the United States' decision in Graham v. John Deere, 383 U.S. 1, 148 (1966), but fails to follow through in presenting factual basis for the rejection of claims 23-31. As expressed by the Court of Customs and Patent Appeals in In re Warner and Warner, 379 F.2d 1011, 154 U.S.P.Q. 173, at 177 and 178 (CCPA 1967):

We think the precise language of 35 U.S.C. 102 that 'a person shall be entitled to a patent unless' concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103.

The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis. (Court's emphasis)

Appellant submits that the Examiner may not substitute his own thinking, hindsight, and assumptions to conclude that claims 23-31 are obvious. There must be factual basis for this conclusion as required by In re Warner and the Supreme Court in Graham v. John Deere. These decisions foreclose the use of substitutes for facts in determining obviousness under Section 103. The legal conclusion of obviousness must be supported by facts. It is quite presumptuous, entirely unreasonable and erroneous for the Examiner in this case to conclude that claims 23-31 are obvious in view of the assumptions set forth above. If the Examiner is at liberty "in effect" to rewrite the cited patents and substitute assumptions for facts as set forth above, then

the Patent Office examination process becomes an arbitrary process without foundation.

As further supported by the In re Warner and Warner case, supra at 177-178, the record on this appeal dictates the conclusion that appellant's process is not obvious under 35 U.S.C. 103.

"The Supreme Court in Graham [Graham v. John Deere Co., 383 U.S. 1], and Adams [United States v. Adams, 383 U.S. 39] supra, foreclosed the use of substitutes for facts in determining obviousness under section 103. The legal conclusion of obviousness must be supported by facts." (Court's emphasis)

Appellant also urges that absent the use of assumptions and impermissible hindsight¹, there is no motivation² in the applied prior art to have modified their disclosures to arrive at the claimed invention³.

¹The use of hindsight knowledge derived from the appellant's own disclosure to support an obviousness rejection under 35 U.S.C. § 103 is, of course, impermissible. See, for example, W.L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

²Most if not all inventions arise from a combination of old elements. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See id. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellant. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

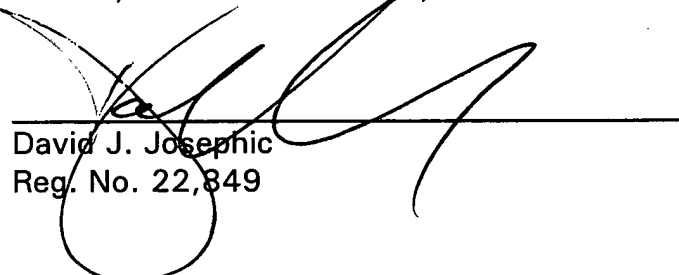
³A case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071,

CONCLUSION

Clearly, there is no *prima facie* case for obviousness under 35 U.S.C. §103 that is made out by the Examiner in view of the record on this appeal. In accordance with the above authorities, and for the facts and reasons fully developed above, Appellant submits that it has complied with all of the requirements to overcome the rejection under U.S.C. §103. Wherefore, the decision of the Examiner should be reversed, and the decision by the Board of Appeals granting the patentability of all claims 23-31 is respectfully solicited.

Respectfully submitted,

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1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

APPENDIX OF CLAIMS

23. A method for steam sterilizing a fire sprinkler system comprising
isolating a section of a water distribution pipe in a fire sprinkler system
for the delivery of steam, wherein said water distribution pipe includes a plurality of
heat-sensitive sprinkler heads and contains water,
removing the water from said section of the system,
utilizing a temperature sensor to detect the temperature at a position in
said section of the system,
inactivating the sprinkler heads during the delivery of the steam by
removing said sprinkler heads and replacing them with temporary fittings,
delivering said steam into said section for a duration at a temperature and
in an amount sufficient to kill microorganisms and sterilize the section, and
returning said sterilized section in the system to operation.
24. The method of claim 23 further comprising the step of purging said steam
from said sterilized section with sterile gas.
25. The method according to claim 23 or 24 further comprising charging said
sterilized section in the system with sterilized water.
26. The method of claim 23 comprising maintaining the sterility of the section
upon returning to operation.

27. The method of claim 24 wherein a second sterile gas is introduced under pressure into the pipe section to maintain sterility.
28. The method of claim 27 wherein said second sterile gas is selected from the group consisting of filtered air and ultraviolet irradiated air.
29. The method of claim 23 wherein said temporary fitting is a valve, a plug, or a condensate trap, or combinations thereof.
30. The method of claim 23 wherein the temperature of said steam is between about 100°C to about 140°C.
31. The method of claim 23 wherein said temporary fittings are replaced with sterilized sprinkler heads for operation of said system.



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Brief on Appeal - Transmittal

Submitted herewith for filing in connection with the above identified application is the Brief on Appeal, in triplicate, together with check in the amount of \$160. Appellant believes that no further fees are required in connection with this matter, however, should it be determined otherwise, the Commissioner is hereby authorized to charge Deposit Account No. 23-3000.

Respectfully submitted,

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